a workspace for making changes to said plurality of configuration items in isolation;

wherein the workspace contains said copy of said predetermined configuration item and a copy of each object which directly and by ownership through another owner, owns said predetermined configuration item; and,

wherein said shared ownership extends from inside said workspace to outside of said workspace, through the use of ownership lists for each item outside of the workspace which is owned by items in the workspace.

REMARKS

Claims 1, 3-14, 17-18 and 20 remain in this application. Claims 2, 15, 16 and 19 have been cancelled, and claims 1, 3, 8, 17 and 20 have been amended.

The Examiner has made several rejections based upon 35 U.S.C. §102, and the Parrish reference will be discussed first.

First of all, when evaluating a claim for obviousness or anticipation, it is essential that the claim as a whole be examined and that each and every limitation must be considered. With regard to claim 1, there are some key limitations in the claim which are not taught or even suggested by the Parrish reference.

Claim 1, as amended, now contains the limitations:

"disposed in the object-oriented database management
system, a copy of each object which directly and by
ownership through another owner, owns said predetermined
configuration item;"

and,

"wherein every object in said object-oriented database
management system has as a component thereof a list of
owners of said object, and wherein said list of owners is
capable of including multiple owners."

Parrish does not teach that there is included a copy of each object which directly

owns each configuration item. Moreover, Parrish does not include with the

configuration item any indication of multiple owners for that configuration item. This is a

significant difference which permits the present invention to model a nested ownership

fine-grained object structure. When examining the claims, this limitation cannot be

ignored. Claims 1, and 3-7 all contain this limitation.

Claim 8 includes a limitation that there is no table containing a reference to each

object that is a member of a composite object. See Figure 5, item 520, and column 11,

lines 1-12 of the Parrish reference.

Claim 9 includes the limitation:

> "creating, without direct ODBMS user intervention, an
> automatically created copy of every object which owns an
> automatically created copy which was created without direct
> ODBMS user intervention."

There is nothing in Parrish that teaches this limitation. In fact, Parrish describes a system which is inconsistent with these claims limitations. See column 22, lines 50-53, where Parrish describes the method of "adding to the root component information identifying program component drafts located in the first program component database." Adding program component drafts directly to the root component implies a non-nested, non-hierarchical data structure. Without a hierarchical data structure, the limitation listed above from Claim 9 is impossible.

The Applicants have moved the limitations of claims 15 and 16 into claim 17, which includes the limitation of "a list of owners of each of said plurality of objects..."

As described above, this notion is not taught by the Parrish reference.

Claim 19 has been cancelled.

Claim 20, as amended, also includes the limitation of "wherein said list of owners is capable of including multiple owners."

The Applicants believe that the claims as amended and explained are allowable over the cited prior art references.

With regard to the remainder of the office action, the Applicants are quite disturbed by the Examiner's lack of consideration of the details of the present invention. Clearly, the Examiner did not thoroughly think through the rejections. It is utterly nonsense for the Examiner to assert that the claims are completely described in a patent and, therefore, anticipated by the Parrish reference and then at the same time to allege that the disclosure cannot enable a person skilled in the art to make and use the invention. If the claims were in fact anticipated by the prior art, then it is axiomatic that the prior art itself would enable the claimed invention. For the Examiner to simultaneously reject for anticipation and lack of enablement is clear indication that the Examiner has not thoroughly examined the application. In the Examiner's rejections under section 112, it is imperative that the Examiner understand the level of skill in the art. The Examiner needs to understand that the Park 1 and Park 2 references are known in the prior art, and the Applicants are free to describe their invention from where the prior art stops. There is no need to include within the four corners of the application a complete dissertation on object-oriented database management systems.

The Examiner has objected to the drawings claiming that the drawings do not show every feature of the invention. The Applicants respectfully suggest that the drawings do show every feature. More specifically, the ODBMS of the present invention is shown in each of the Figures. Figure 1 now specifically refers to ODBMS 100. Configuration Items are shown through the Figures; e.g., configuration item 1 (CI 1) numbered 414 in Figure 4 is a configuration item. The lines connecting the various elements of Figure 1 are context characteristics. See the brief description of the

drawings section, specifically the description of Figure 1 on page 6 of the specification. Workspace or change package are also shown in Figure 1. See the first sentence of the description of Figure 1 on page 6 of the specification. The Applicants respectfully suggest that the Examiner has erred in suggesting that the Applicants show in the drawing a "user intervention." The Applicants believe that in the context of a system of the present invention, depicting a "user intervention" or a lack thereof does not aid in the understanding of the invention and, therefore, is not appropriate and not required. Such a claim limitation does not admit of illustration.

In paragraph 4 of the office action, the Examiner appears to state that additional textual labels need to be added to the drawings and are required for understanding. The Applicants believe that the drawings with the current amount of textual labels and keys, etc. adequately show the invention. The Applicants respectfully request the Examiner to either remove the nonspecific requirement for more textual labels or provide the Applicants with specific examples of how the legends are required for understanding. The Applicants believe that when the application is considered by a person possessing ordinary skill in the art who is familiar with the prior art, especially with the Park 1 and Park 2 references, that the drawings as originally submitted fully and adequately aid in the understanding of the invention.

The Examiner has rejected claims 1-20 under 35 U.S.C. §112, first paragraph, claiming that a person having ordinary skill in the art would not be enabled to make and use the invention without undue experimentation.

The Examiner asserts that the extensive use of symbols and acronyms makes comprehension of the disclosure confusing. The Applicants believe that the acronyms and/or symbols aid in the precision of the disclosure and ultimately aid in the understanding of the present invention. The Examiner cites as an example of an improper symbol, the use of the terms "Park 1" and "Park 2" to refer to the two prior art references authored by Hyun-Ju Park. The Applicants remind the Examiner that the application is directed to one possessing ordinary skill in the art. The Applicants are entitled to be their own lexicographer, and the use of Park 1 and Park 2 is believed to be readily understandable by a person skilled in the art. Similarly, the Examiner objects to use of the notation of "CP" as change package. Again, the Applicants can be their own lexicographer, and they are free to define "CP" to mean change package. "CP" is used consistently throughout the application to refer to change package. Since the Applicants never use "CP" to refer to control point or check point, there is no basis for the Examiner's objection to the Applicants' choice of "CP" for change package.

The Examiner has objected to the last sentence on page 14. The Applicants believe that this statement is redundant and that the information conveyed by this sentence is clear when taken in context with the Figures and the remainder of the application. Consequently, the Applicants have opted to delete the sentence because it is believed to be the most expeditious manner to dispense with the Examiner's rejection. Similarly, the Examiner has objected to the use of the term "neglected" in lines 8-10 of page 11. This discussion relates to prior art manual logs and their shortcomings. The sentence has been removed.

The Examiner has objected to the vagueness of the definition of the term "version." The Examiner is reminded that the Applicants are entitled to describe their invention with a level of generality if additional detail is not required to distinguish the present invention from the prior art. The Applicants believe that the level of generality in the description of the invention is entirely the right of the Applicants.

The Examiner has objected to the descriptive language on page 15 and stated that the connection between the descriptive language on page 15 and the drawings was not clear. The Applicants will explain the connection between the text and the drawings. For example, in the text at the top of page 15, it states:

> "The genealogy is extended when CP-2 creates a version of
> A1 (A2.CP2.1) makes changes to A2.CP2.1 and then
> publishes it as A2."

In this sentence, CP-2 refers to the item marked CP-2 on Figure 1. Inside CP-2 in Figure 1 is the item marked A2.CP2.1. This corresponds to the discussion in the text of the same name. Similarly, A2 in the text refers to A2 in the drawings. The correspondence between text and drawings continues throughout the specification.

The Examiner states that in claims 1 and 20, the predetermined configuration item is not shown. Again, as discussed above, CI-1 labeled 414 in Figure 4 is a configuration item.

The Examiner objects to claims 9 and 10 for the limitation of "creating" via a user intervention. The Examiner states that the details of the user intervention are not

spelled out. Again, the Applicants are not required to teach the Examiner in the claims or anywhere for that matter, any more details than are required to distinguish their invention from the prior art. Here it is improper to require more detail on the user intervention. The Applicants are entitled to describe their invention as any user intervention so long as their invention, as a whole, is distinct from the prior art.

The Examiner rejects claims 1-20 under 35 U.S.C. §112, second paragraph, for failing to particularly point out and claim the subject matter which Applicants regard as the invention. The statement, "a copy of each object ...., is also disposed in ...." was somewhat cumbersome and has been rewritten to make it more easily understood.

The Examiner has rejected claim 9 for being vague regarding the limitation "via an ODBMS user intervention." As argued above, unless the prior art is such that the claims must be made more specific, the Applicants are entitled to draft their claims such that any user intervention would infringe the claims. It is improper to require the Applicants to include narrowing details in the claims when they are entitled to broad claims with respect to the prior art.

The Applicants believe that the application as amended is now in condition for allowance, and early notification of allowance would be appreciated.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the drawings:

Call-out numbers 100 and 101 have been added to Figure 1.

In the specification:

Paragraph beginning at line 4 of page 11 has been amended as follows:

Differences between any two versions in a genealogy can be calculated at any time. The difference between two subsequent versions represents what was changed on the first version to create the second version. Calculated differences are a vast improvement over manually maintained change logs. [History shows that manual change logs are often neglected, and when not neglected, are often inaccurate.] Manual logs double users' entry effort by requesting them to both make and describe changes. Calculated differences are guaranteed accurate and do not require double entry effort from users.

The first full paragraph beginning at line 4 of page 14 has been amended as follows:

A more thorough understanding of the method of the present invention may be obtained by now referring to Figure 1, where

there is shown a genealogy of a change package <u>101</u> using the

<u>ODBMS, generally designated 100,</u> [system] and method of the

present invention.

The last paragraph on page 14 has been amended as follows:

The genealogy starts when CP-1 creates A1.CP1.1, sets all values

as desired, and publishes it as A1, an initial version. [Publication in

this case is a trivial copy.]

<u>In the claims:</u>

Claims 2, 15,16 and 19 have been cancelled.

Claims 1, 3, 8, 17 and 20 have been amended as follows:

1.   <u>(Amended)</u>   A system for assisting a user with configuration

management comprising:

an object-oriented database management system containing a plurality of

configuration items;

said object-oriented database management system having an ability for

making changes to a predetermined configuration item of said plurality of

configuration items;

a copy of said predetermined configuration item is disposed in said object-

oriented database management system, in response to a direct user intervention;

[and,]

disposed in the object-oriented database management system, a copy of each object which directly and by ownership through another owner, owns said predetermined configuration item [, is also disposed in the object-oriented database management system]; [and,]

a shared ownership of other configuration items which have not been modified themselves and which are owned by said predetermined configuration item;

wherein every object in said object-oriented database management system has as a component thereof a list of owners of said object; and

wherein said list of owners is capable of including multiple owners.

3.   (Amended)   A system of claim [2] 1 wherein each element of said list includes a context characteristic for an owner of said object.

8.   (Amended)   A system [of claim 1] for assisting a user with configuration management comprising:

an object-oriented database management system containing a plurality of configuration items;

said object-oriented database management system having an ability for making changes to a predetermined configuration item of said plurality of configuration items;

a copy of said predetermined configuration item is disposed in said object-oriented database management system, in response to a direct user intervention;

disposed in the object-oriented database management system, a copy of each object which directly and by ownership through another owner, owns said predetermined configuration item;

a shared ownership of other configuration items which have not been modified themselves and which are owned by said predetermined configuration item; and

wherein there is no table containing a reference to each object that is a member of a composite object.

17.   (Amended)   A [system of claim 16] configuration management system comprising:

means for organizing engineering information in the form of a plurality of objects;

means for maintaining information about a plurality of owners of each of said plurality of objects;

means for creating a new version of a first of said plurality of objects;

means for automatically creating copies of all objects in an upwardly directed ownership path for said first of said plurality of objects;

means for providing coupling from an automatically created copy to a subset of said plurality of objects, without making a copy of objects in said subset of said plurality of objects;

wherein said means for organizing information is an ODBMS; and

wherein said means for maintaining information is a list of owners of each of said plurality of objects where each element of the list contains a context characteristic for an owner of an object.

20.   (Amended)   A system comprising:

an ODBMS having a plurality of configuration items therein, wherein said each of said plurality of configuration items is an object and includes engineering information relating to a predetermined engineering design;

said ODBMS having an ability for making changes to a predetermined configuration item of said plurality of configuration items;

a copy of said predetermined configuration item is disposed in said object-oriented database management system, in response to a direct user intervention;

disposed in the ODBMS, a copy of each object which directly and by ownership through another owner, owns said predetermined configuration item [is also disposed in ODBMS] ;

a shared ownership of other configuration items which are owned by said predetermined configuration item;

wherein every object in said object-oriented database management system has as a component thereof a list of owners of said object;

wherein said list of owners is capable of including multiple owners;

wherein each element of said list includes a context characteristic for an owner of said object;

reference relationships from a first object to a second object which includes a context characteristic on an ownership characteristic of said second object;

a workspace for making changes to said plurality of configuration items in isolation;

wherein the workspace contains said copy of said predetermined configuration item and a copy of each object which directly and by ownership through another owner, owns said predetermined configuration item; and,

wherein said shared ownership extends from inside said workspace to outside of said workspace, through the use of ownership lists for each item outside of the workspace which is owned by items in the workspace.
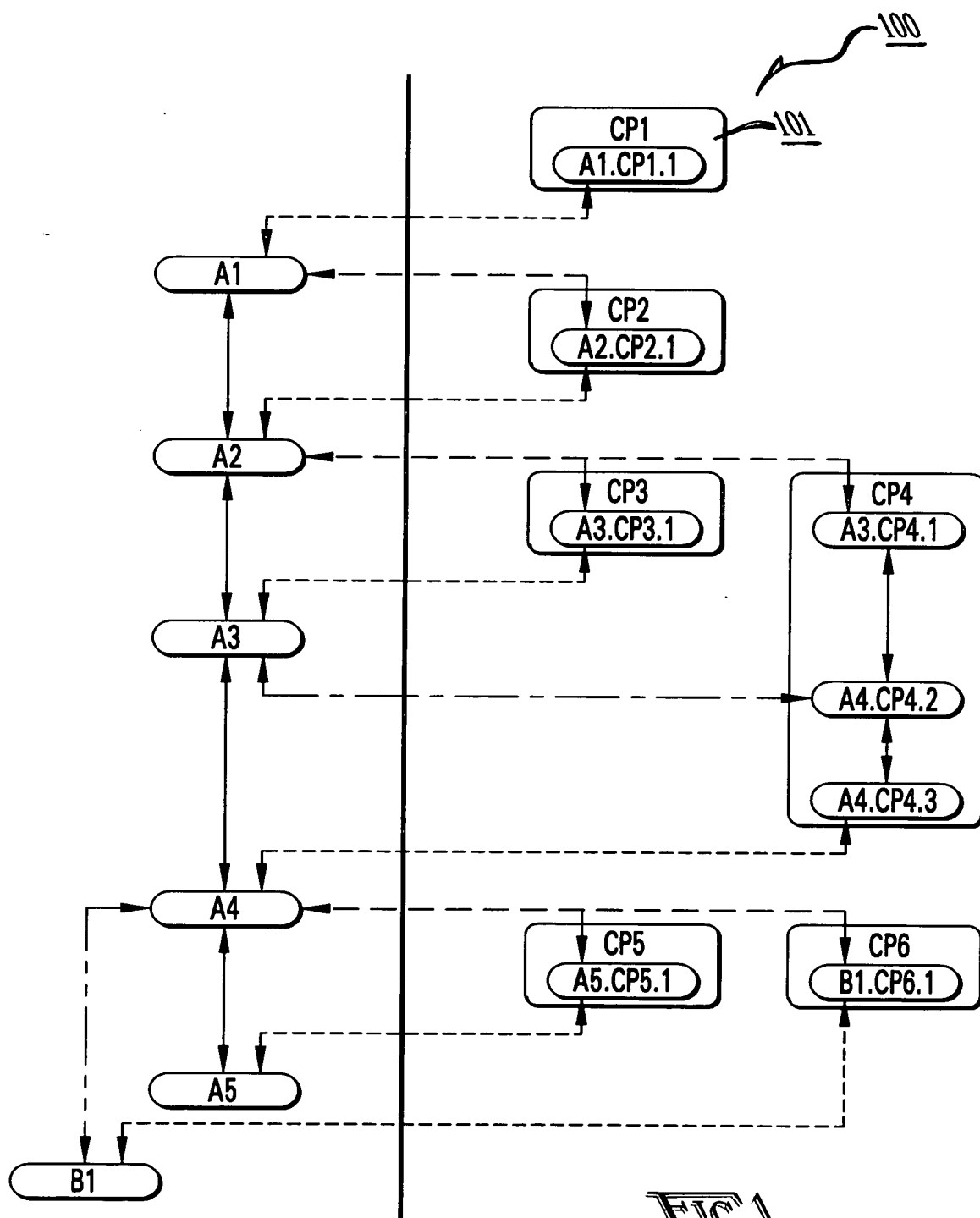
100

CP1
A1.CP1.1
101

A1

CP2
A2.CP2.1

A2

CP3
A3.CP3.1

CP4
A3.CP4.1

A3

A4.CP4.2

A4.CP4.3

A4

CP5
A5.CP5.1

CP6
B1.CP6.1

A5

B1

FIG.1